

REMARKS

Claims 1-12, 14-24, 26-35, 37-44, 46-51 and 53 are pending in this application. claims 1-12, 14-24, 26-35, 37-44, 46-51 and 53 have been rejected. In view of the following remarks, the applicants request allowance of the application.

Claim Rejections under 35 U.S.C. § 103

The Office Action rejects claims 1-8, 14-20, 26-31, 37-40, 46-47 and 53, including all of the independent claims, under 35 U.S.C. § 103(a) as being unpatentable over Miller, U.S. Patent No. 6,950,924, in view of Arnold, U.S. Patent No. 6,971,091.

The cited references, even if considered together, fail to disclose, either expressly or implicitly, each and every feature of the claimed embodiments. Consider claim 1, which recites, in part:

A processor comprising: ... an optimizer to optimize the trace based on runtime information collected by the processing core ***during a previous execution of the trace***

None of the cited references discuss a processor comprising an optimizer. The Office Action asserts that Arnold, at column 4, lines 13-31 discloses the claimed optimizer. Applicants respectfully disagree. Arnold discusses an adaptive optimization system for a Java Virtual Machine (JVM). (See, Arnold at column 4, line 3-5). That is, Arnold discusses a program optimizing Java code. As seen, for example, in FIG. 1, the processor 100 includes the optimizer 110. Applicants respectfully submit that one of ordinary skill in the art would recognize that a JVM is a software module to be executed by a processor and that one of ordinary skill in the art would not incorporate a JVM into a processor.

Accordingly, Applicants respectfully submit that a *prima facie* case of obviousness cannot be based upon Martin and Arnold, because there is no evidence that one of ordinary skill in that art would combine Martin's processor with Arnold's Java program and modify the combination to include the claimed "processor comprising: ... an optimizer to optimize the trace." On this basis alone, the finality of the Office Action must be withdrawn.

Furthermore, Applicants respectfully submit that Arnold fails to disclose the claimed “optimizer to optimize the trace,” because Arnold only discusses optimizing compiled Java code. As disclosed in the application specification, a trace is a series of micro-operations, and micro-operations that are a translation of the instructions generated by a compiler. (See, applicants specification at page 2, paragraphs 2-3). The Office Action fails to provide any evidence that Arnolds JVM optimizer could be modified to optimize a trace or that one skilled in the art would look to a Java virtual machine when trying to design a trace optimizer.

Furthermore, Arnold discusses, “[a]n adaptive optimization system attempts to optimize an executing program based on its current execution.” (See, Arnold at column 2, lines 29-30). Accordingly, Applicants respectfully submit that Arnold fails to disclose the claimed “*optimizer to optimize the trace* based on runtime information collected by the processing core *during a previous execution of the trace*,” because Arnolds adaptive optimization system for a JVM attempts to optimize an executing program based on its current execution.

Accordingly, Applicants respectfully submit that a *prima facie* case of obviousness cannot be based upon Miller and Arnold, because there is no evidence that one of ordinary skill in the art would have combined Miller’s method of managing processor instructions, with Arnold’s adaptive optimization system for a JVM, and modified the combination to include the claimed “processor comprising: ... an optimizer to optimize the trace based on runtime information collected by the processing core during a previous execution of the trace,” as recited in claim 1, because Arnold merely discusses a JVM optimizing Java code.

Independent claims 16, 26, 38 and 46 patentably distinguish over the cited references for similar reasons as independent claim 1. The dependent claims refer to one of independent claims 1, 16, 26, 38 or 46, and therefore patentably distinguish over the cited references.

Conclusion

All outstanding rejections have been overcome. It is respectfully submitted that, in view of the foregoing amendments and remarks, the application is in clear condition for allowance. Issuance of a Notice of Allowance is earnestly solicited.

Although not believed necessary, the Office is hereby authorized to charge any fees required under 37 C.F.R. § 1.16 or § 1.17 or credit any overpayments to Deposit Account No. 11-0600.

The Office is invited to contact the undersigned at 202-220-4200 to discuss any matter regarding this application.

Respectfully submitted,

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